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THE FARM INDEX

ECONOMIC RESEARCH SERVICE ★ U.S. DEPARTMENT OF AGRICULTURE ★ DECEMBER 1966

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economic trends

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1965		1966		
			YEAR	OCTOBER	AUGUST	SEPTEMBER	OCTOBER
Prices:							
Prices received by farmers	1910-14=100	242	248	249	272	270	266
Crops	1910-14=100	223	232	221	241	236	233
Livestock and products	1910-14=100	258	261	273	298	299	294
Prices paid, interest, taxes and wage rates	1910-14=100	293	321	322	335	337	337
Family living items	1910-14=100	286	306	306	317	318	318
Production items	1910-14=100	262	276	276	287	289	287
Parity ratio		83	77	77	81	80	79
Wholesale prices, all commodities	1957-59=100	—	102.5	103.1	106.8	106.8	106.2
Commodities other than farm and food	1957-59=100	—	102.5	102.8	105.2	105.2	105.2
Farm products	1957-59=100	—	98.4	99.4	108.1	108.7	104.4
Food, processed	1957-59=100	—	105.1	106.9	113.8	113.8	112.4
Consumer price index, all items	1957-59=100	—	109.9	110.4	113.8	114.1	—
Food	1957-59=100	—	108.8	109.7	115.8	115.6	—
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,042	1,047	1,121	1,117	—
Farm value	Dollars	388	409	414	460	453	—
Farm-retail spread	Dollars	595	633	633	661	664	—
Farmers' share of retail cost	Per cent	39	39	40	41	41	—
Farm Income:							
Volume of farm marketings	1957-59=100	—	119	181	116	136	182
Cash receipts from farm marketings	Million dollars	32,247	39,187	4,923	3,515	4,089	5,400
Crops	Million dollars	13,766	17,334	2,770	1,334	1,889	3,100
Livestock and products	Million dollars	18,481	21,853	2,153	2,181	2,200	2,300
Realized gross income ²	Billion dollars	—	44.9	—	—	49.8	—
Farm production expenses ²	Billion dollars	—	30.7	—	—	33.8	—
Realized net income ²	Billion dollars	—	14.2	—	—	16.0	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,229 ³	587	571	569	—
Agricultural imports	Million dollars	3,977	4,088 ³	411	353	415	—
Land Values:							
Average value per acre	1957-59=100	—	139	139 ⁴	150 ⁴	—	—
Total value of farm real estate	Billion dollars	—	159.4	159.4 ⁴	171.1 ⁴	—	—
Gross National Product: ²							
Consumption ²	Billion dollars	457.3	681.2	—	—	744.6	—
Investment ²	Billion dollars	294.2	431.5	—	—	469.9	—
Government expenditures ²	Billion dollars	68.0	106.6	—	—	115.0	—
Net exports ²	Billion dollars	92.4	136.2	—	—	155.3	—
	Billion dollars	2.7	7.0	—	—	4.2	—
Income and Spending: ⁵							
Personal income, annual rate	Billion dollars	365.3	535.1	547.2	585.4	590.0	594.6
Total retail sales, monthly rate	Million dollars	17,098	23,662	24,194	25,572	25,656	25,667
Retail sales of food group, monthly rate	Million dollars	4,160	5,577	5,788	5,920	5,966	—
Employment and Wages: ⁵							
Total civilian employment	Millions	64.9	72.2	72.6	74.3	74.2	74.2
Agricultural	Millions	6.0	4.6	4.6	4.2	4.0	4.0
Rate of unemployment	Per cent	5.5	4.6	4.3	3.9	3.8	3.9
Workweek in manufacturing	Hours	39.8	41.2	41.2	41.4	41.5	41.3
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.61	2.64	2.70	2.74	2.75
Industrial Production: ⁵	1957-59=100	—	143	146	158	158	159
Manufacturers' Shipments and Inventories: ⁵							
Total shipments, monthly rate	Million dollars	28,745	40,279	40,548	44,206	44,044	—
Total inventories, book value end of month	Million dollars	51,549	68,015	66,642	74,110	74,805	—
Total new orders, monthly rate	Million dollars	28,365	41,023	41,843	44,842	46,293	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. ² Annual rates seasonally adjusted third quarter. ³ Preliminary. ⁴ As of March 1. ⁵ Seasonally adjusted.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and

Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

In this season of thanksgiving for the blessings of the old year and high hopes for the new, U.S. farmers can look back on a year in which realized net income per farm reached a new record and look forward to a year almost as good.

Realized net farm income is up sharply this year, about \$2 billion above the \$14.2 billion in 1965 and the highest on record except for 1947. The figure may decline in 1967 by as much as 5 per cent, reflecting prospects for a further rise in farm production expenses and little change in gross farm income from the record high of about \$49 $\frac{1}{4}$ billion expected this year.

Realized net income per farm this year is expected to average around \$4,900, some 16 per cent above the 1965 level and record high. The sharply higher average income per farm this year resulted mainly from the substantial increase in aggregate realized net farm income, and to some extent from the decline in farm numbers. Although average income per farm is likely to decline slightly from the 1966 record high, the 1967 level would still be the second highest of record and some 60 per cent above 1960.

COMMODITY HIGHLIGHTS

The **livestock** situation is expected to continue favorable to producers next year. Two developments this year will have a significant influence on the livestock economy not only next year but for the next several years as well.

Cattle producers reduced their inventories by heavy slaughter in 1965 and again this year largely because of the low prices in 1963 and 1964. This brought beef production to record levels this year, both in the aggregate and per capita. Cattle prices, however, have been higher this year despite record production, mainly because of increased demand for beef. Cattle prices are expected to average higher again next year. The improved outlook is apparently encouraging stockmen to begin shift-

ing from a reduction in herds to an expansion—the start of a new cattle cycle.

The second major development has been the moderate—rather than excessive—expansion in **hog** production despite record-high prices. As a result, the hog enterprise is expected to continue profitable and lead to continued expansion in 1967 and 1968.

Dairy farmers can look forward to 1967 prices averaging above the 1966 level and income from milk and cream higher than this year's record \$5.6 billion. The \$4.00 price support level ensures that farm milk prices will be higher in the first half of 1967 than in 1966; they are expected to average higher for the year. Farm marketings of milk and cream in 1967 are expected to be up from 1966, reflecting a small rise in milk output and the long-time trend toward marketing a larger proportion of output.

Total disappearance of U.S. **wheat** during 1966/67 is expected to decline sharply from the record-high 1965/66 level. Prospective smaller disappearance is balanced against a smaller supply and, while there will be a reduction in carryover stocks during the year, it is not likely to be nearly as large as the 282-million-bushel decline during 1965/66. A decline of possibly 115-140 million bushels from the 536 million bushels last July now appears most likely. The undetermined extent of government program exports during the remaining months of the 1966/67 marketing year is the major factor contributing to the uncertainty in the estimate of the year-end carryover.

The strong domestic and export demand for **feed grains**, which was a dominant feature of the feed situation during the past year, is expected to continue in 1966/67. During the past year, total feed grain utilization increased about 14 per cent from 1964/65 to a record high of

174 million tons. This high level of usage exceeded 1965 production by about 13 million tons, reducing stocks carried into 1966/67 to 43 million tons.

The 1966 feed grain crop, estimated in November at 159 million tons, is only 2 million tons below last year's record crop. But with the smaller carryover, the total feed grain supply for 1966/67 is 7 per cent less than in 1965/66.

During the past 10 years U.S. exports of feed grains have been increasing at a much more rapid pace than feed grain production or sales. Exports were only about 5 per cent of our total feed grain production in the early 1950s, but were about 18 per cent of our 1965 production.

The U.S. has long been the leading **tobacco** exporting country; tobacco is one of our top five agricultural exports. But expansion of production and exports of foreign countries has cut deeply into the U.S. share of the free world tobacco trade; it dropped from 35 per cent in 1955-59 to 26 per cent in 1965.

In fiscal 1965/66, U.S. tobacco exports were the second lowest in 11 years. However, in 1966/67 they are likely to exceed every year since 1955/56; exports may approximate 560 million pounds (export weight)—up 15 to 20 per cent from last year's low level.

Export prospects for **vegetables** this season are good. Trade with Canada, our leading export market for vegetables, is expected to continue the steady uptrend of the last decade. And because of recent improvements in marketing techniques, we may be moving more fresh vegetables to Europe. Foreign demand for dry beans probably will be strong and, with U.S. supplies up and quality good, bean exports are expected to show a sharp rise. A strong demand for dry peas also is likely but export volume may be curtailed because of small U.S. supplies and high prices.

Demand for **soybeans** in 1966/67 will be stronger than last year; utilization will be larger and at prices well above support. Since

the 1966 soybean crop probably will be largely utilized, carryover stocks next September may be only slightly above this year's relatively small 36 million bushels. Soybean crushings in 1966/67 may total around 585 million bushels—roughly 50 million more than the 1965/66 record.

Prospects for expanding domestic and foreign demand for soybean meal may largely determine the crush in 1966/67. A growing foreign demand for soybeans, particularly in Europe and Japan, points to a possible increase in exports, perhaps around a tenth above last year's record 251 million bushels. The rate of exports will depend on the level of soybean prices during 1966/67 and on the size of competitive foreign oilseed crops.

Increased production of poultry and eggs is in prospect for 1967. **Egg** production, which this year totaled the same as last year, may in 1967 show the largest rise in more than a decade. The increase likely in the coming year will be large enough to temporarily reverse the 15-year downtrend in per capita egg consumption. **Broiler** output is expected to continue increasing about as fast as in 1965 and 1966—5 to 10 per cent. Growth in **turkey** production in 1967 probably will not match the 11 per cent gain in 1966, but should be in line with the average increase of the 2 preceding years—around 5 per cent.

Cotton production this year is expected to total around 10 $\frac{1}{4}$ million bales—more than 30 per cent below the 1965 crop and the smallest since 1950.

Disappearance this marketing year is expected to total around 14 $\frac{1}{2}$ million bales—2 million more than in 1965/66. U.S. mill consumption is expected to be up slightly from last year and at the highest level since 1950/51. Exports may total around 5 million bales—a sharp recovery from last year's total of only 2.9 million bales. Accordingly, the record 1966 carryover of 17 million bales is expected to drop by around 4 million bales.

THE PLOW AND THE PLAINS

*The innovating spirit
of the pioneers
is still at work coping
with problems of
farm management
in the plains.*



When the pioneers pushed west-across the plains, an important part of their baggage was knowledge. Many had harvested buckwheat in Ohio or corn in Illinois before picking up stakes and moving on.

But the plains were a new and strange environment for men accustomed to farming in a humid climate.

The area offered relatively low and variable rainfall; temperatures that soared in the summer, plummeted in the winter; hot, drying winds, almost no trees; and a scarce supply of water.

But the soil was good and that was enough for the pioneer spirit to take hold and begin the work of adapting to a new "world."

Wheat turned out to be the king of the crops in the plains. It was frugal with water, used most of the available growing season in the northern plains. In the southern region, wheat could use the cooler months for its period of major growth.

Sorghum for grain and forage,

corn, alfalfa for the wet years, cattle on grassland—all were adapted to the conditions imposed by the region.

Special farm structures, such as the trench silo, solved the problem of low cost storage. Deep or shallow, machines could till to the best level for the most profitable residue for mulch.

Soil management systems were developed, enhancing the value of the land instead of exploiting it. Summer fallow and stubble mulch turned crop production in the drier areas into efficient and profitable operations.

Today, the techniques of business management offer more stubborn problems for the farmer in the plains.

Until recently, researchers assumed that the extreme year-to-year variations in area production and farm income were the worst management problems. Thus, they set out to chart the variability of various crops with a mind to curbing the more drastic swings.

They got their measures, but in the process, had to change strategies in attacking the problem.

In North Dakota, for example, the yield variability for wheat and barley was nearly half again as large as the variability for corn silage and alfalfa hay. And so it went throughout the Plains States: The enterprises having the greater variability were also the ones returning the higher average income per acre, or per dollar investment. Grains led the list, more often than not.

Given favorable weather, grains respond with spectacularly increased yields. The higher yields, in turn, produce much of the variability. It is easy enough to reduce these wide swings in production. But the cost is lower incomes.

One way to reduce the variability, for instance, would be to switch to relatively stable enterprises such as forage crops and livestock. Unfortunately they bring in less money than wheat, grain sorghum or corn.

Another solution might be to combine enterprises with different patterns of year-to-year variability—winter wheat and grain sorghum, for instance. Growing the two together would mean that total yield and income would vary less than for either crop alone. But the moderate reduction in variability could be achieved only with some sacrifice in income.

Irrigation is yet another way to reduce the impact of weather on the yields of crops. But a North Dakota study suggests that the return to investment in irrigation is much less than the return to such alternatives as dryland grain crops, additional fertilization of such crops or livestock enterprises.

Thus, it is easy enough to smooth out the year-to-year variations in crop output. But it can't be done without slowing the growth of farm income.

There are, of course, other ways to take some of the roller coaster effects out of farm income. The means generally are reserves of some sort—insurance policies or flexible range-livestock production systems.

Today, as in the time of Joseph's seven lean and seven fat years, reserve supplies make it possible to transfer resources or income from one period to another.

Stocks of grains, feed or other supplies and livestock inventories help the farmer cope with shortages or the wrong market price. They are not, however, without their disadvantages. The value can be lost through fire, theft or simple deterioration. Also managing the inventory may become too much of a burden.

And though material reserves can be used as collateral, they don't earn money while they fill the barn or silo.

The purpose of feed reserves is to reduce the year-to-year fluctuations in livestock output that follow on changes in the supply of range forage. Such reserves

would also complement the strategy of flexible range-livestock systems.

But the theory of feed reserves runs into a problem in economics. When drought hits, the value of the hay reserves goes up with scarcity, the market value of cattle goes down as ranches liquidate their herds. Thus, it is apt to be more profitable to sell the feed reserves and some of the cattle.

This flexibility is in fact the most profitable approach to the seasonal swing in the range-livestock enterprise.

In good years, with more forage available, the farmer keeps more of the calf crop for another season of grazing. When forage begins to be a problem he takes the other approach: He sells more of the calf crop, raises fewer breeding herd replacements and culls the herd more severely than usual.

A study of how Kansas ranchers coped with four years of drought indicated the greatest flexibility lay in a combination.

Other weapons are at the farmer's disposal in combatting the hazards of the weather, the vagaries of the market place. Financial reserves—bank balances, securities, bonds—can help carry the farm in a low-income year. All-risk crop insurance or hail insurance helps the farmer salvage his production costs from the devastated crop. And renting farmland, instead of buying it, helps the operator cut down on his annual fixed overhead expenses. (1)

Profit May Lose Out to Personal Preference in Making Crop Choices

A farmer doesn't always consider profit alone when choosing his crops.

Profit is important, of course. But sometimes a farmer will plant a less profitable crop simply because that's his personal preference.

Other reasons he may not choose the most profitable crop are: not knowing how much money can be made from other choices; a dislike for borrowing money; a desire for more leisure time; and disagreement with his partner or landlord.

These conclusions were obtained in a survey taken by ERS of twenty-five 160-acre farm operators and twenty 320-acre farm operators in west central Ohio. The survey was made to get a better understanding of how farmers make decisions. Knowing this would give farmers better service from research people, extension personnel, salesmen, marketing men and so forth.

Financial position played an important role where personal preference influenced plantings. Operators who were in a better-than-average financial position were more apt to grow a familiar crop than a more profitable, but less desirable one.

Researchers found that farmers with the most education did not often venture into a different type of farming. Economists theorized that these operators with more education realized their lack of knowledge about other crops and thus shied away from planting them.

Older farmers tended to prefer leisure time over profit in selecting crops. Those farmers choosing the extra time off averaged nearly 47 years, while those not influenced by more leisure time were just over 43.

Eight other factors were considered in the survey but did not have a significant bearing on the decision-making of a majority of the farmers. These were health, age, educational limitation, desire for a quick but small return rather than a large return over a longer period of time, risk of low yields or low prices, difficulty in getting capital or credit, wife's opinion and competition between the farm and household for reinvestment of funds. (2)

LEAST-COST FARM PLANS

		One-man four-row	One-man six-row	Two-man six-row	Three-man six-row	Four-man six-row	Five-man six-row
Farmland	acres	320	440	920	1,120	1,480	1,720
Investment	dollars	216,300	294,300	610,400	748,100	987,300	1,147,100
Cotton	acres	102	140	293	356	471	547
Grain sorghum	acres	50	121	261	306	408	470
Soybeans	acres	127	109	217	279	365	428
Gross income	dollars	43,600	59,500	118,800	152,700	197,400	234,600
Total cost	dollars	32,000	42,100	86,700	108,200	140,300	167,100
Operator-management income	dollars	11,600	17,400	32,100	44,500	57,100	67,500
Cost per dollar of gross income	cents	.732	.707	.730	.709	.711	.712

Study of Texas Cotton Farms Shows Small Units Can Compete Effectively

A farm doesn't have to be big to be efficient. In fact, in the Texas High Plains, a one-man cotton farm with adequate capital can be just as efficient as a five-man operation.

A recent study by the Texas Agricultural Experiment Station in cooperation with ERS showed through a statistical model of a 440-acre farm (140 acres of cotton) operated by one man with a set of six-row machinery (tractor, plow, cultivator, etc.) that the operator could keep costs down to an overall level of less than 71 cents per dollar of gross income. None of the larger farms (including a five-man farm with 1,720 acres of cropland) could better this cost figure. Costs per dollar of gross income were about 73 cents for the two-man operation; slightly over 71 cents for the four- and five-man farms.

The modern family farm is capable of achieving a highly efficient and profitable cotton operation in the Texas High Plains.

For instance, a two-man operation can handle 1,040 acres of

farmland, including 331 acres of cotton, while employing less than one man-year of seasonal labor. Therefore, even this two-man farm can qualify as a family farm. Investment required is nearly \$700,000 and total net returns to operator management is more than \$30,000.

By comparison, a five-man farm can earn more than \$67,000 using 1,720 acres of farmland. But capital requirements amount to \$1,147,000.

Although the larger farms produce greater profit, they do so at a higher operating cost per unit. But the higher profit encourages the farm operator to expand the size of his business.

Certainly farms in the Texas High Plains are getting bigger. The number of farms with between 500 and 1,000 acres of cropland increased 10 per cent between 1954 and 1959; those over 1,000 acres, 5 per cent. The number of farms with under 200 acres of cropland dropped by 26 per cent; those between 200 and 500, by 6 per cent.

The economists used linear programming to construct representative farms of various sizes, assuming advanced technology and

prices projected to 1968. Gross income was used as the measure of output. Several different crop and livestock enterprises and various cultural practices were included in the analysis to determine the least-cost farm plan for each of several levels of equipment. (3)

Land Leads as Farm Asset Pushing Total Value to \$273 Billion Record

Total farm assets will reach a new high of \$273 billion when the nation's farmers open their books on New Year's Day 1967. This is the reading of the preliminary Balance Sheet of Agriculture for the date.

The 1967 estimate compares with \$255 billion on January 1, 1966—an increase of 7 per cent during the year.

While farm debt again will have increased considerably by the end of the year, the rise will be much smaller than the increase in the value of assets. Result: a \$14 billion gain in equities.

The increase in the value of farm real estate, as in other recent years, accounts for the major part of the increase in the total value

of farm assets. Lesser increases will probably be shown for livestock, machinery and motor vehicles, and for financial assets.

Farm debt continued to expand in 1966 at about the same record rate as in the previous year. Short-term and long-term debt are each estimated to have risen nearly \$2.4 billion or about 11 per cent in 1966.

The year was marked by sharply rising interest rates in the central money markets. This, in turn, increased the cost of borrowed funds which Farm Credit Administration agencies use in making loans to farmers and farm cooperatives.

By September 16, all the federal land banks had increased their interest rates to 6 per cent, the legal maximum under current statutes. Until June 1966, most of the banks had been charging 5.5 per cent. Also the federal intermediate credit banks raised their discount rates by $\frac{3}{4}$ to $1\frac{1}{2}$ per cent. The move caused production credit associations to increase the rates charged to farm borrowers.

Interest rates on farm mortgage loans made by life insurance companies have also increased. In the second quarter the average rate charged by 20 companies was 6.16 per cent, up from 5.74 per cent in the same quarter 1965. (4)

A Trip to the Friendly Loan Company May Be First Step to Bigger Income

When a farmer refinances, is it a sign that he is waging a last-ditch battle against his income problems? Or does refinancing the mortgage typically accompany progress?

The latter, suggests a recent analysis of the records for several hundred farm borrowers from federal land banks and life insurance companies.

To begin with, the typical borrower who refinanced his mortgage with the same lender in October-December 1965 was a

REFINANCING THE FARM MORTGAGE OFTEN ACCOMPANIES FINANCIAL PROGRESS

Financial progress group (real estate values held constant)	Borrowers	Distribution
	Number	Per cent
Decline in net worth (—4 per cent or more annually)	75	10
Little change (—3 to +3 per cent annually)	283	39
Some increase (4 to 9 per cent annually)	191	27
Rapid increase (10 per cent or more annually)	176	24
Total	725	100

fairly big operator. His latest mortgage debt to the lender in the sample was \$32,400. The land he pledged as security had a market value of \$76,900; total owned assets amounted to \$184,900. With total liabilities of \$51,400—including the latest mortgage debt—his net worth was \$133,500.

By comparison, total owned and rented assets on all commercial farms probably averaged less than \$125,000 at the beginning of 1966, about the time of the study. The survey farms were more comparable to the larger commercial farms, those with gross annual sales of \$10,000 or more in farm products.

The question for the researchers was: How much financial progress were these borrowers making? The specialists defined progress as the increase in net worth achieved by the borrower over his years of borrowing from his present lender. The increase was apart from any change that could be tied directly to higher market prices of the same quantity of land with the same improvements.

The measure used was fairly simple. The specialists recorded the financial statement supplied

to the lender when the borrower got his first loan during the period 1955-64. This in turn was compared with the financial statement submitted when applying for the latest loan during the fall of 1965.

In the comparison, the researchers held constant the value of the real estate used as security for the loan, except for additions or improvements to the property. Thus, much of the price appreciation in the borrower's total assets was probably eliminated. Generally the improvement in financial status on this basis could reasonably be assigned to the farmer's own ability.

According to the study, the great majority of the borrowers had either made progress or had at least held their own when their performance was measured within the framework of constant real estate prices.

Only about a tenth of the borrowers in the study showed a decline in constant net worth.

On the plus side, half the borrowers were making some progress, from the relatively modest growth rate of 4 to 9 per cent a year to the rapid pace of 10 per cent or more. (5)

Profile of Farming in North Carolina In 1975 Detailed in Recent ERS Study

What will farms in the Eastern Piedmont and Upper Coastal Plain areas of North Carolina look like in 1975? What will be their size? What crops will they grow?

ERS economists undertook a study recently to answer these questions. The price of cotton was assumed at various levels in order to determine crop acreage and farm makeup for the optimal farm organization.

Linear programming showed that by 1975 cotton production would probably be sharply curtailed if the price of cotton fell as low as 21 cents per pound of lint. At this price, production would be limited to the small farms. However, at 26 cents per pound and over, the maximum allotments would be grown on most sizes of farms.

Since the study gave primary consideration to varying cotton allotments and prices, tobacco was programmed only at 1963 allotments and support price levels. Farmers in the study areas, however, are very dependent upon tobacco as a cash crop. But the

highly seasonal nature of tobacco prevents a full use of labor. In the optimal organization in the projected farm makeup, only 40 to 60 per cent was used.

On the larger farms in the Eastern Piedmont Region, barley would be the most widely grown crop. In the Upper Coastal Plain Region, soybeans and barley would be leading crops.

The table shows programmed crop acreages and net income to farmers under certain assumed cotton prices with cotton and tobacco allotments at 100 per cent of the 1963 level. In 1963 there were approximately 24,000 tobacco allotments averaging 4.0 acres and 18,000 cotton allotments averaging 5.0 acres. Of the allotted acres, 98 per cent of tobacco and 79 per cent of cotton were planted.

The linear programming results show that only medium and large farms are able to provide a level of living that could be considered adequate. As a result, the number of farm is expected to decline. The number of small farms stood at 8,049 in 1959; 3,872 are projected for 1975. On the other hand, there were 661 large farms in 1959; 1,534 are projected for 1975. (6)

Cuts in Cotton, Fewer Farms, More Machines—All Equal Fewer Workers

Never have so few turned out so much. That continues to be the theme song for farm workers.

Farm employment is expected to average 5.2 million persons this year—including family and hired labor. That's a decrease of 400,000 workers or 7 per cent from 1965. The 1966 figure is only about half the size of the 9,926,000 person farm labor force of 1950.

The 7 per cent decline for 1966 is about the same rate as in 1965 and 1964. But it was a noticeably greater rate than the average annual decrease for 1959 to 1963—about 2.8 per cent a year.

A number of factors converged on 1966 to produce the marked drop in farm labor.

First off was the tremendous cut in cotton acreage to the lowest acreage level in a century that resulted from heavy grower participation in the high-diversion option of the 1966 program. With fewer acres, fewer field hands were needed.

The trend to fewer, bigger farms meant less need for labor. Also, chemical pest controls took over some of the work. (7)

OPTIMAL ORGANIZATIONS OF REPRESENTATIVE NORTH CAROLINA FARMS IN 1975

Size of farm	Crop						Capital investment	Net income with 1963 cotton and tobacco allotments and cotton prices at		
	Cotton	Tobacco	Soybeans	Corn	Barley	Wheat		26¢	31¢	36¢
	Acres per farm						Dollars	Dollars		
Eastern Piedmont										
Small	2.4	3.3	—	0.0	0.0	9.2	9,300	2,382	2,457	2,532
Medium	5.6	8.3	—	4.4	13.5	15.0	30,520	4,928	5,103	5,278
Medium-large	11.4	20.1	—	21.0	65.4	15.0	84,283	11,092	11,448	11,805
Large	22.1	31.6	—	24.9	106.0	15.0	118,049	17,432	18,123	18,814
Upper Coastal Plain										
Small	3.6	3.0	4.4	—	0.0	5.0	7,803	2,774	2,886	2,998
Medium	8.6	7.0	16.5	—	0.0	14.5	24,114	5,161	5,430	5,698
Medium-large	18.6	14.8	54.0	—	24.0	15.0	63,898	10,746	11,327	11,908
Large	28.6	27.8	97.4	—	53.9	15.0	111,199	19,724	20,618	21,512



About 3,128,000 men, women and teenagers made up the hired labor force on America's farms last year. In 1964, the force numbered about 3,370,000.

Casual workers (those with less than 25 days of work for wages) numbered 1,264,000. The others (those who had 25 days or more of farm wage work) totaled 1,864,000.

Composition of 1965's farm

labor force differed little from that of the previous year's hired group in most respects. Among the 1965 workers:

—70 per cent were men and boys.

—70 per cent were white.

—Only about a fourth were engaged chiefly in farm wage work during the year.

—54 per cent (mostly housewives and students) were not in

WORKERS ON THE WANE

"Who's who" of America's 1965 hired farm labor force carried fewer names; many belonged to teenagers.



the labor force most of the year.

—Median age was 24.6 years.

—30 per cent were young people 14-17 years old; nearly three-fourths of the youths were boys.

Over half of the 1965 hired labor force lived in the South; about one-tenth in Northeastern States; 18 per cent in North Central States; and 22 per cent in the West.

Changes in geographic distribution in recent years reflect somewhat greater use of domestic workers in the West after the Mexican Bracero Program was terminated in December 1964.

About 15 per cent of last year's hired hands did some farm wage work outside their home counties. This increased proportion from the previous year was due partly to the fact that some domestic migrants were doing jobs formerly done by foreign help.

Since the late 1940s there has been a marked shift in the sources from which farm labor is drawn.

When last year's labor force was surveyed (in December 1965), about 70 per cent of them were actually living in *nonfarm* places, although some of them had lived on farms at some time dur-

ing the year. The contrary was true in the late 1940s, when about 65 per cent lived on farms.

Earnings for the hired labor force were generally higher in 1965 than in 1964. As a group, they averaged about \$7.55 a day from their farm work but, as always, there was great variation in the number of days worked and the daily and yearly earnings.

The 1.3 million casual workers averaged only nine days of farm work and \$66 for the year. The 1.9 million noncasuals averaged 137 days and \$1,045 (wages only, exclusive of fringe benefits).

Among geographic regions, highest daily wages were \$11.15 in the West; lowest were \$6 in the South.

Comparing averages for the three-year periods 1960-62 and 1963-65, there has been a 7 per cent decline in total number of hired help. Biggest fall-off, 14 per cent, has been the group putting in 250 or more days at farm work.

Altogether, hired help totted up 267 million days of farm labor in 1965—about one-fourth of the total man days it took to operate America's farms. (8)

Unused Byproducts of Western Lumber Mills Can Net Profits If Processed

Wood shavings and sawdust. These two little used byproducts of the western lumber industry might be the answer to western farmers' search for a steady supply of livestock bedding and poultry litter.

Recently ERS economists studied the economic feasibility of installing a plant to bale shavings or sack sawdust in four western resource conservation and development (RC&D) projects.

In all four areas, livestock and poultry producers are willing to buy baled shavings and sacked sawdust at a price competitive with straw (currently \$12 to \$20 a ton). Some farmers would even pay a premium since they pre-

ferred shavings and sawdust to straw.

With a ready-made market, the prime task in determining the feasibility of a baling or sacking plant was making sure of an adequate supply of raw materials. Lumber mills were scattered throughout all four of the RC&D projects. Some of these firms sent part of their shavings and sawdust to pulp mills while others burned the items. Little was ever sold loose to farmers.

The economists estimated that the total capital investment in either a baling or sacking plant would not exceed \$15,000 in any of the four RC&D areas. When the two functions were combined into one firm, the total capital investment was still under \$20,000.

The use of a converted hay baler to bale wood shavings proved economically feasible. This type of operation, functioning at full capacity (38,400 bales a year), had a budgeted net return of \$1,076 annually—or 2.8 cents a bale.

Balers specially manufactured to bale miscellaneous items such as wood shavings, rags and scrap metal were already in use in Utah. When operated at peak capacity (67,200 bales annually), the net return amounted to \$8,695—or 13 cents a bale. However, this operation would require shavings from a lumber mill with an annual output of 15 million board feet to function at full capacity. Considering the size of most mills now in the areas and the varying supply of raw materials, a firm producing only 20,000 bales a year appeared more realistic. Net returns would be about \$1,343.

Sacking sawdust required little investment in machinery or equipment but about \$10,000 in buildings. A firm operating at full capacity would need sawdust from a mill with an annual output of 15 million board feet to produce 192,000 sacks a year. Returns would amount to \$19,254—or 10 cents a sack above all costs. At

one-third capacity, the firm would net \$4,725—or 7 cents a sack.

Baled shavings and sacked sawdust, where these residues were formerly wasted, would not only add to the income of the lumber industry but would employ more land, labor, capital and management in the four western RC&D project areas. (9)

"Manana" in Michigan Brings Day of Unskilled Labor for Many Migrants

Yes, Spanish is spoken in Saginaw. It's the tongue that's spoken by several hundred migratory farm families who have put down roots in Michigan.

These Spanish-speaking "colonists" are remnants of many southwestern laborers lured north each summer by wages to be earned in Michigan's sugar beet fields.

Most of them head back toward the Texas border after harvest. But each year a few decide to stay in Michigan because wages and working conditions appear to be better than they were back home.

What are these people's hopes and chances for tomorrow?

Judging by a survey of 361 families in Saginaw County, over 80 per cent of Spanish-speaking laborers who remain in Michigan wind up in the city.

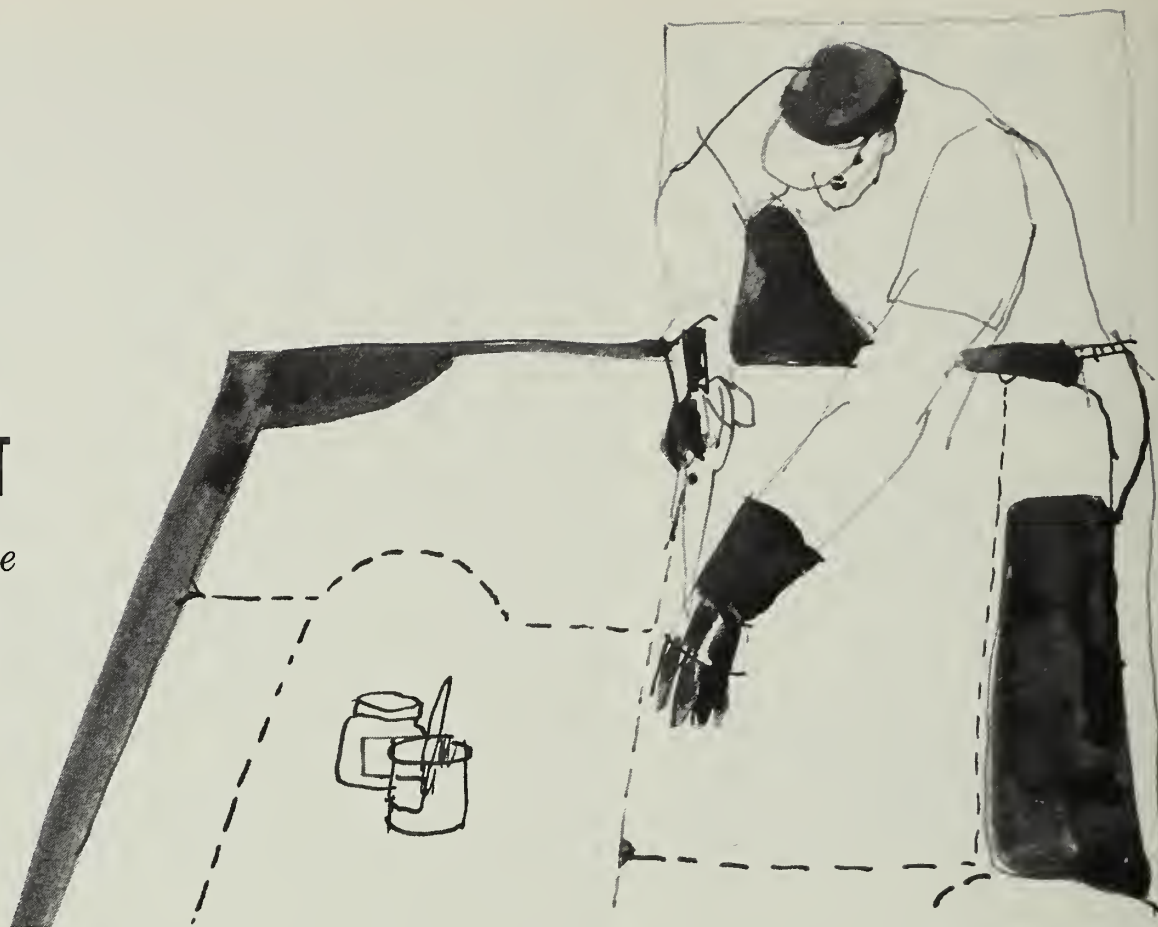
Whether they become city-dwellers or stay on the farm, the same percentage—and most all of the oldsters—cling to unskilled work. (Only 7 per cent of the county's total labor force is unskilled.)

Few of the older group try to move up the occupational ladder because they feel their limited skills and language are too great a handicap. But they want to see their children "get ahead"—especially their sons.

The Spanish-speaking sons themselves voice aspirations just as high as most other young people. But farm life and work rank low on their list of goals. (10)

LEATHER: STEPPING UP AND OUT

Brandless brands, grub-free calves and a no-salt recipe for curing hides—a few of the changes that are sweeping through the hide and leather industry, from feedlot to footwear.



Prodded by competition from synthetics, led by the attraction of new technology, the hide and leather industry is rapidly losing any vestige of hide-bound ways.

Herewith, a roundup of some recent changes in the industry:

Clean sweep on the farm. Farmers are beginning to get grubs under control. Today, about 18 per cent of all cattle on farms are treated for grubs, with Iowa leading the nation. Iowa meatpackers recently said that 50 to 65 per cent of the cattle they purchased had been treated. And a major effort is underway in the nation's range country. The aim is to treat calves before they go to feedlots. Major selling point: calves weigh 35 to 40 pounds more when they are weaned, if they were treated early.

Today's practices should lead to less manure on hides, too. Some observers estimate that half the cattle population will be confined to feedlots by 1975. The lots, in turn, are increasingly built with slatted floors, automatically ridding the pen of manure.

Also, confined cattle should be

freer of barbed wire scratches, mange and disease. Even the branding iron may give way to progress. Newest system substitutes super-cold for the red-hot branding iron. It's called "cryo," a cooperative development of the U.S. Department of Agriculture and Washington State University.

A patchy outgrowth of white hair results ultimately when a copper rod, chilled with dry ice, has been applied to the animal. Another study is testing the usefulness of an adhesive tape marker. All are attempts to provide the industry with a permanent mark without scarring the hide.

New strategies for the packer and dealer. Mechanical pullers are removing three out of five federally inspected hides today. The practice means fewer cuts and scores with the knife.

Three firms are trying out a new way of marketing hides. They cut green hides down the backbone into sides, flesh the sides by machine, salt them down on pallets and ship them directly off to the tannery. Goal: No inventory cost.

The new, soft leisure shoes made of pigskin may well be the industry's success of the decade. Ten years ago sales of pigskin shoes were nonexistent. Today the manufacturers of the popular shoes purchase nearly 7 million skins.

Sales of hides for edible uses are also on the upswing. In 1966, more than 50,000 hides will be used to make collagen-type sausage casings.

Beamhouses are moving down to the packing house level. They de-hair and pickle hides within 24 hours after they are removed from the animal. This eliminates the necessity of saltcuring hides. Result: fewer stains, less deterioration of quality. A couple of firms are taking the hides one step further—through tanning.

New treatments for the tanners. A few of the new developments are: drums holding 30,000 pounds, vacuum driers, paste driers, flow coaters and stackers.

Some tanners are successfully automating the line, not only to cut down on costs, but to improve quality. (11)

Southern Farmers Add Local Changes To National Trends for Livestock

The livestock industry down in Dixie is just about the same as in the rest of the nation. About the same but more so, for some of the trend lines. Same but less so, for others.

Take the production of cattle and calves as a case in point. For the United States as a whole, production trended sharply upward between 1956 and 1964. It was the same for the South, though less so. The area fell somewhat short of the national rate of increase.

The individual states added further variations to the averages. Kentucky and Tennessee, for example, were appreciably above the national rate of increase in the production of cattle and calves.

However, the South abandoned close harmony in favor of counterpoint when it came to hog production. The national trend was a modest upward line between 1956 and 1964. For the South, the production line dipped slightly.

Marketing cattle for slaughter concentrated in central Kentucky, west and central Virginia and in central Alabama. For hogs, the main marketing areas in the South were along the Atlantic and Gulf coasts and in the western and central parts of Kentucky and Tennessee.

The national pattern for livestock slaughter was the same as for production—sharply upward for 1956 to 1964. But individual southern states modified the design. Commercial slaughter decreased for the period in Louisiana, Georgia and South Carolina.

For hogs alone, commercial slaughter moved sharply up the scale for the southern states, though the national figures showed only a modest increase.

The heaviest concentration of cattle slaughter in the South in 1962 were in northeast Mississippi, west and central Tennessee,

northern Georgia and central Alabama. For calf slaughter, the principal concentration was in the lower Mississippi Valley. Main centers for hog slaughter were central Kentucky, eastern North Carolina, western and central Tennessee and southwest Georgia.

The 13 southern states have proved themselves good markets for their own livestock industry. Only for veal did the regional slaughter estimates for 1962 surpass the estimates for consumption. On the other hand, regional consumption of beef and pork noticeably exceeded slaughter. (12)

26 Cents—That's What Storage Costs For a Bale of Cotton for One Month

How much does it cost to store a bale of cotton?

A recent study provides a wealth of statistical information on storing and handling cotton in public facilities during 1964-65. The data were collected from 133 different facilities. They accounted for roughly a third of the total capacity of all plants approved for storage of cotton owned by the Commodity Credit Corporation or cotton under loan to the corporation. Some 73 compresses and 60 warehouses were included in the survey. A few highlights from the tables:

—The total cost of insured storage at all plants in the study averaged \$0.26 per bale per month. But the cost varied from \$0.23 in the South Central Area to \$0.34 in the West.

—Out-of-pocket costs averaged \$0.22 per bale per year, excluding allowances for depreciation or interest on the investment.

—Generally, total costs for receiving, break-out and shipping were lower at compresses than at warehouses. For storage, the reverse was true.

—The total cost involved in receiving cotton for storage was \$0.897 per bale at warehouses and \$0.637 at compresses. (13)

A Little Trash Could Be a Bit Of Treasure If It's Cached in Cotton

Trash removal is a good thing. But like some other good things, it can be carried too far where cotton is concerned.

Trash in cotton—bits of stems, sand, other natural debris—has grown with mechanical pickers.

In deciding how far to go in taking trash out at the gin, good sense can mean more cents to both farmer and spinner. There's a good case for minimum to moderate cleaning, rather than maximum.

Let's look at 100 bales, 500 pounds each, Strict Low Middling 1 3/32 inches cotton, ginned with minimal trash removal. The farmer gets 29.32 cents a pound for it—or \$14,660 for the lot.

What if cleaning at the gin is *over-emphasized* to the point of maximum trash removal? The grower then gets \$14,400, or about \$2.60 less a bale. And mill people may lose about 2 cents a pound in terms of yarn production rates.

With maximum trash removal, here's what happened in a series of on-the-spot tests:

—Each bale lost close to 25 pounds of weight—10 pounds of materials plus 15 pounds of harmless moisture dried out in cleaning (a drop from 7 per cent to 4 per cent moisture content.)

—70 of the 100 bales were upgraded to Middling; 15 rose to SLM+; and 15 stayed at SLM.

—Staple was shortened on the average about 1/32 inch by fiber breakage that also detracted from desirable spinning properties.

Results: The farmer lost \$260. The textile manufacturer lost in terms of yarn production rates, and also about .3 per cent on total yarn produced. Both would have been better off with less trash removal at the gin and more at the mill.

Moral: The virtue of cleanliness can be sullied by adverse economic side effects. (14)

JAPAN: OUR BILLION DOLLAR BUYER

Japanese agricultural imports from the U.S. are likely to reach \$1 billion—making Japan the first country to attain that position and our top farm market abroad.



Japan, already the U.S. farmer's top customer abroad, is expected in 1966 to become the first \$1 billion outlet for U.S. farm products.

According to a recent study of Japan's nearly \$2.7 billion farm imports in 1964, the United States supplied \$820 million—almost one-third of the total. Competition in the rapidly expanding and highly prized Japanese market is keen and hard work will be required if the U.S. is to hold and expand its position in this market.

Every product we sell to Japan is at least partly available from another source. And faced with a growing import bill and periodic balance of payments problems, Japan makes a concerted effort to buy where the terms of trade are most favorable or where purchasing will develop the market for Japanese exports, largely manufactured goods.

Here's a list of the principal U.S. farm products for which Japan is a major market and a brief description of the competition U.S. sellers face:

Cotton. In 1964 the Japanese purchased raw cotton from more than 23 different countries in line with its policy of scatter-buying to promote exports. While the United States remained the biggest single supplier of cotton, with 34 per cent of the market, Mexico (our stiffest competitor for sales) captured about 25 per cent.

Though Japan recognizes the advantages of U.S. cotton on the basis of quality, uniformity and availability, pricing is a big determining factor. Japan buys heavily when U.S. prices are competitive.

Mexican cotton is similar to ours in type, variety, uniformity and staple length. But in past years Mexican cotton has tended to sell in world markets at prices below comparable U.S. qualities.

U.S. cotton is also facing increasingly stiff competition from manmade fibers in the Japanese

market. Raw cotton represents Japan's heaviest outlay for farm imports year after year. Consequently, the Japanese have been quick to adopt manmade fibers which they can produce themselves, often with raw materials available domestically.

Soybeans and safflower seeds. Japan is one of our largest foreign markets for soybeans and the U.S., in turn, is Japan's biggest supplier. Since 1950 our share of the market has ranged from a low of 71 per cent in 1955 to a high of 97 per cent in 1960.

American soybean interests have done a careful and effective job of adapting U.S. soybeans to Japanese needs and preferences, not only for beans to be crushed for oil and meal but also for those to be used in food preparations.

In crushing for oil and meal, our soybeans have a telling advantage over both Japanese beans and those grown in Mainland China, our only significant foreign competitor in Japan. U.S. beans have a very high oil content—a quality considered valuable enough that Japanese buyers are willing to pay more for our beans for crushing than for Chinese

beans. Domestic and Chinese beans are preferred, however, for making the traditional Japanese soybean foods.

However, future prospects for U.S. soybean sales to Japan hinge heavily on Japan's political relations with Mainland China and Chinese production. Should the Chinese step up output sufficiently to offer increased amounts of soybeans at low prices—or should they be willing to import large amounts of Japanese manufactured goods, the Japanese probably would increase purchases from China.

The United States is virtually the sole supplier of Japan's safflower seed imports, with 99.2 per cent of the market in 1960-64. Competition is negligible, but safflower seeds are competitive with soybeans and price ratios between the two products are important.

Wheat. Though the Japanese government still encourages domestic wheat production by paying price supports above world price levels, it is increasingly turning to the import market to meet its growing needs.

The United States and Canada compete vigorously for the Japa-

nese market. In 1960-64 we supplied about 40 per cent of the market, compared with the 45.7 per cent held by Canada.

A growing preference for hard wheat in Japan has made it more difficult for the United States to hold onto its share of the wheat market. Hard wheat grown in the United States has to be transported from our central states to west coast ports, adding to its price and location problems. The Japanese prefer to buy wheat on the west coast.

We remedied this situation by stockpiling hard wheat on the west coast. It was offered to Japan at prices competitive with Canadian wheat. This strategy worked—our sales rose sharply and we recaptured 47 per cent of the import market compared with Canada's 39 per cent in 1964.

Feed grains. With a rapidly expanding livestock industry and only a limited increase in domestic feed grain production, Japan is the world's fastest growing feed grain market.

Recently Japan has been one of our best customers for feed corn. In 1960-64 Japan imported an average of 867 thousand metric

U.S. FARM EXPORTS FACE KEEN COMPETITION IN JAPANESE MARKET

Japan's major farm imports from the U.S.	Imports from the U.S. in—		Principal foreign competitor	Competitor's sales in—		Total Japanese imports in—		Imports as per cent of total supply in—	
	1960-64 average	1964		1960-64 average	1964	1960-64 average	1964	1960-64 average	1964
Wheat (1,000 metric tons)	1,159	1,681	Canada	1,339	1,400	2,928	3,592	68.0	74.3
Corn (1,000 metric tons)	867	1,545	South Africa	595	626	2,275	3,229	95.6	97.4
Cotton (1,000 bales)	1,327	1,085	Mexico	764	795	3,214	3,177	100.0	100.0
Tobacco (metric tons)	10,011	15,065	Rhodesia	2,454	5,319	16,046	29,092	9.6	12.1
Soybeans (1,000 metric tons)	1,191	1,322	Mainland China	144	284	1,346	1,607	79.8	87.0
Tallow (1,000 metric tons)	138	163	Australia	13	11	163	192	90.1	89.7
Hides and skins (1,000 metric tons)	96	118	Australia	21	22	138	159	81.1	83.2

tons annually. But our position as Japan's No. 1 supplier is not unassailable. South African corn exports have made strong gains, rising from zero in 1952 to 595 thousand metric tons annually in 1960-64. Yellow corn is preferred by Japanese buyers and South African farmers are emphasizing the yellow varieties for the export market. Our corn has been faulted by some Japanese as being too pale in color and too high in moisture content, but this has provided no serious deterrent to our sales.

The United States is the top supplier of Japan's rapidly growing imports of grain sorghums. Competition from other countries is minor since exportable supplies are not large. But this situation may change; grain sorghums from Argentina and Thailand are entering the picture.

Livestock products. Japan is our biggest market for tallow and we, in turn, are her biggest supplier. In 1964, 85 per cent of all tallow imports came from the United States, with Australia, New Zealand and Canada supplying most of the rest.

The Japanese prefer high-quality U.S. tallow because it is best suited and most economical for soap making. However, detergents have made serious inroads into the Japanese soap industry and the future of this market for tallow is a bit shaky.

Another area of large potential, however, is the use of fats in formula feeds for Japan's growing livestock and poultry industries. Surveys in Japan indicate the potential demand for tallow in feeds could double or triple present imports for *all* purposes if used at U.S. rates of consumption.

Japan is also our top world market for hides and skins and demand for leather continues to grow. However, competition is growing, too, from three directions: increasing domestic production in Japan from its own growing livestock industry; greater use of leather-like substi-

tutes which are lower in price; and rising imports from such countries as Australia.

Tobacco. Consumer acceptance of cigarettes containing U.S. flue-cured leaf has enabled us to hold a large share of the tobacco market in Japan—but competitive pressures are increasing. The U.S. share reached a peak of 97 per cent in 1959 but has declined every year since, amounting to only 52 per cent in 1964.

Our strongest competitor in flue-cured tobacco is Rhodesia. Leaf from this source entered Japan only in 1960 but by 1964 Japanese imports reached 5,319 metric tons, about 18 per cent of total imports.

While the quality of Rhodesian leaf is lower than U.S.-grown tobacco, its price is lower, too. The average import value of Rhodesian flue-cured in 1963 was 64.5 cents per pound, compared with 99 cents for U.S. leaf. A big gain in the popularity of filter-tip cigarettes in Japan could lead to more imports of lower-quality flue-cured from other non-U.S. sources. (15)

Method of Selling Excess French Grain in 1970 Will Affect U.S. Sales to EEC

France, the granary of the European Economic Community (EEC), is expected to produce just about 8 million metric tons of grain over and above domestic needs by 1970. Disposition of the French excess likely will have important effects on U.S. grain exports to the other five EEC members which recently have averaged about 6 million tons of coarse grains and 1 million tons of wheat a year.

The net grain import needs of the "five," excluding France, are expected to run over 15 million tons by 1970—with most of the deficit in coarse grains used for livestock feed. The French surplus, on the other hand, will be mostly in soft wheat—which

would have to be denatured before being used as a livestock feed.

The denaturing process consists of adding lamp black or another foreign substance to the wheat to make it unusable for milling and suitable only for livestock.

The two most likely alternatives for marketing the French excess appear to be: (1) denaturing it and feeding it within the EEC or (2) selling the excess soft wheat outside the EEC.

ERS economists recently estimated the budget costs of these alternatives in 1967-68, based on the levies and threshold prices for grains in the EEC as of December 1964. The price of EEC grain imports (including cost, insurance and freight) in 1967-68 were assumed equal to 1963-64 levels.

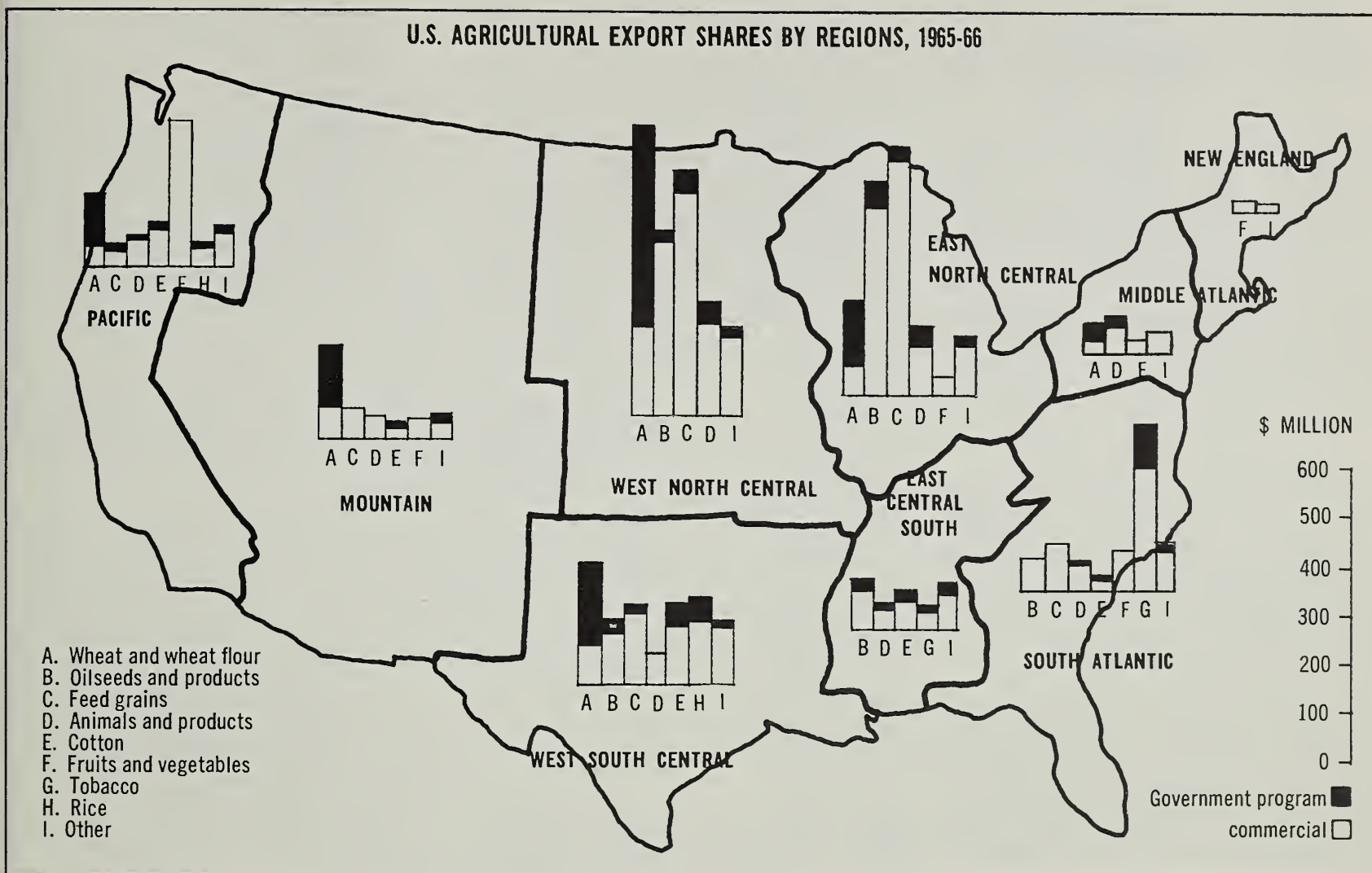
The prospective budget cost of denaturing French wheat worked out to about \$20 a metric ton. But since the denatured wheat would likely replace coarse grain imports, the EEC would have to forego the receipt of a coarse grain levy of approximately \$34 a ton. This would bring the total cost of denaturing French wheat and feeding it within the EEC up to about \$54 a ton by 1967-68.

Exporting French wheat to non-EEC countries was expected to involve a subsidy of about \$52 a ton in 1967-68, making it a slightly less costly method of disposing of the French excess.

However, changes in world wheat and coarse grain price relationships by 1970 could also have a strong impact on the method of selling French wheat.

An increase in world wheat prices might encourage French exports to non-EEC countries because it would lower the budget cost of export subsidies. On the other hand, a rise in the world price of coarse grains would result in lower EEC levies on coarse grain imports. Thus, the total budget cost of denaturing French wheat and feeding it within the EEC would also be lowered. (16)

U.S. AGRICULTURAL EXPORT SHARES BY REGIONS, 1965-66



Illinois Leads Big Field of States Sharing Profits From Farm Exports

Bigger the stake, bigger the profit. So it's not surprising that some of our nation's states had bigger profits than others in fiscal 1966's record-breaking farm exports.

Though all the states had some share of the big foreign market, half of the \$6,681 million worth of U.S. agricultural products that went abroad last year came from eight states—in five regions.

Illinois farmers had the biggest share—\$666 million worth—of the foreign agricultural trade pot. Their main exports were feed grains, soybeans and soybean oil, wheat and protein meal.

Texas and California tied for second place at \$495 million each. Both led strong in cotton and rice. Texas also made heavy contributions of feed grains and wheat, while California's share was

swelled by fruits and vegetables and products thereof.

Other states in the "Top 8" and their shares in millions of dollars were Iowa (426.1), Kansas (392.2), Indiana (317.3), North Carolina (306.0) and Minnesota (240.5).

Next-largest stakes were held by Nebraska (232.3), Ohio (218.7), North Dakota (205.6), Missouri (204.3), and Arkansas (200.8).

Many other states had a big interest in the foreign market, particularly for certain commodities.

Examples of these were Florida's citrus, North Dakota's flaxseed, Louisiana's rice, Kentucky's and South Carolina's tobacco, Washington's wheat and apples and Wisconsin's dairy products.

Altogether, the union's agricultural exports in 1965-66 topped those of a year earlier by \$600 million.

Commercial sales for dollars, at \$5.1 billion, were \$700 million

higher. They thus accounted not only for all the gain in total shipments but also made up for a \$100-million decline in exports under government-financed programs.

Comparing fiscal '66 with fiscal '54—the year before Public Law 480 (Food for Peace legislation) was enacted—there was a gain of \$3,745 million.

Most of the 12-year gain has been in the North Central States. The West North Central and East North Central Regions, with increases of \$1,260 million and \$970 million, respectively, accounted for 60 per cent of the upsurge.

Individual state increases have varied widely between 1953-54 and 1965-66.

A few states—including Rhode Island, Arizona and Alabama—show little or no gains. But four North Central States—Kansas, Iowa, Indiana and Illinois—have quadrupled the value of their agricultural export shares. (17)

Peanuts Are Big Stock in Trade For Senegal—An Upcoming African Nation

Senegal, a country about the size of South Dakota, located on the west coast of Africa, is today the world's fifth largest producer and second largest exporter of peanuts. This achievement can be attributed in part to the active promotion of improved seeds, fertilizers and implements by agencies of the Senegalese and French governments.

Among the improvements promoted by government agencies were the introduction of strains of peanuts with about 40 per cent greater yields, increased use of fertilizer and farm mechanization of modest proportions (with animal-drawn equipment).

The four-year plan currently in effect emphasizes economic development through diversification and increasing agricultural production by means of irrigation, livestock development and mechanization.

Eleven per cent of the nation's land, or 5.3 million acres, is presently in crops, with roughly half in peanuts. An additional 18 per cent could be cultivated.

With a population of 3.5 million expanding at a rate of about 2.7 per cent per year, economic

development is essential. As an associate member of the European Economic Community, Senegal is eligible to share in economic and technical assistance from the European Development Fund.

In 1964, agricultural products made up 83 per cent of Senegal's exports and over 43 per cent of all imports. Senegal is not only geographically well placed for trade with Western Europe, but has four ocean ports within its borders.

With former colonial ties going back over 100 years, it is not surprising that France is Senegal's best customer.

However, the United States is also an important source of Senegalese imports. In 1964, imports from the U.S. were valued at over \$11 million. Of these, agricultural commodities—chiefly rice, grain sorghum, and corn—were valued at over \$6 million. (18)

Citrus Juices Trail Other Beverages In Frequency of Use in West Germany

Citrus juices make only infrequent appearances in West German homes, compared with other beverages.

Recently some 2,400 West German homemakers were queried on how often they served their fam-

ilies citrus juices in a special survey by USDA's Statistical Reporting Service and the Florida Citrus Commission. The purpose of the study was to determine the potential of the West German market for citrus products, especially orange and grapefruit juices.

At least half of the homemakers interviewed served coffee, tea or milk at least several times a week. Fruit juices were served this often by roughly one-fourth of the homemakers. And among fruit juices, apple and grape topped orange and grapefruit in popularity.

Overall, only about three out of every 10 homemakers reported buying some form of orange juice during the preceding 12 months. Only one in 10 had bought grapefruit juice during the same period.

More of the homemakers reported trying bottled or canned orange or grapefruit juice than frozen concentrates.

Frozen citrus juices were used less often than other forms by the West German homemakers, apparently because many lacked refrigeration equipment. At the time of the survey, only about six in 10 of the homemakers interviewed said they had refrigerators; only about one in 10 had freezer units large enough to do more than freeze ice cubes. (19)

New Food Aid Program

New Public Law 480 legislation (the Agricultural Trade Development and Assistance Act of 1954 as now amended by the 89th Congress and extended through 1968) was signed November 12 by President Johnson.

The 1966 amendments to the 12-year-old P.L. 480 give it more flexibility to expand exports of U.S. farm products, foster the agriculture and total economy of developing countries and improve nutrition in those areas.

The new food aid act differs from the earlier one in several objectives. Chiefly:

—*Self-help* efforts are now linked to food aid.

Recipient countries will be expected to show they are taking steps to increase per capita food output and to improve storage and marketing facilities for farm products.

—*Range of commodities* is no longer limited to surplus items. This means that almost any foods can be produced to meet needs abroad as long as aid exports do not pre-empt domestic needs, carryover and dollar export supplies.

—*Nutritional content* of food aid will come in for special emphasis.

—*Sales for local currencies* are to be phased out by December 31, 1971, where practicable. Long-term dollar credit agreements will be substituted in most cases. (20)

It's a week-day friend of the menu planner, a hit with the outdoor cooking crowd, and generally a boon to the food budget—the broiler-fryer adds to its already high rating with the nation's housewives.



BROILERS: THE BIRD IN HAND

Northern roast, Southern fried, Eastern broiled and Western barbecued—today more American homemakers are serving more chicken more often.

A recent survey by the Statistical Reporting Service showed that 97 per cent of homemakers interviewed put broiler-fryer dishes on the table. More than three out of five served chicken at least once a week on the average.

These findings are based on personal interviews with some 2,600 housewives, who were chosen as representatives of private rural and urban households.

The study notes gains made by broiler-fryers since a similar study in 1956: the earlier queries showed 94 per cent serving broiler-fryers and 50 per cent serving them at least once a week.

Besides being cheaper than many other meats, chicken's popularity stems from its acceptance as a week-day meat and from the vogue for outdoor cooking, a pastime to which the broiler-fryer is well adapted.

As to the shopping for broiler-fryers, the study found:

—Shoppers buying parts are concerned more with the number of chicken parts to the package than with the package's size.

—While most homemakers believe that the whole broiler-fryer offers the best value for the money, many report they usually buy selected parts as a matter of family preference.

—About one out of every two buyers says she generally buys more "on sale." Extra birds are usually stored in the home freezer.

—About one-fourth of the homemakers who bought chicken on their last shopping trip said they decided at the store to buy

it. Price and appearance are the big factors in these impulse purchases.

What do shoppers look for when choosing a broiler-fryer? They want a clean, bruise-free bird. Size, USDA approval, plumpness and absence of pinfeathers are also considered when the purchase is made.

Many consumers feel that the quality of broiler-fryers has improved in the past decade. Today's product is judged superior as to cleanliness, tenderness, plumpness and flavor.

Along nonquality lines, modern packaging and ready to cook processing make today's broiler-fryer better than the 1956 models, another reason for increased popularity among homemakers.

But as was the case ten years ago, commercial frozen chicken has failed to gain wide acceptance. Less than a third of the women who bought broiler-fryers bought them frozen.

Prices and lack of availability are behind this non-success, as is the fact that shoppers are uncertain about the length of time commercial chickens have been frozen.

Several survey results point to the possibility of continued improvement in broiler-fryers' future:

—The typical family seems less likely to tire of chicken than it might of other meats with the exception of beef.

—Most of the homemakers interviewed serve broiler-fryers less often than they might; the fowl seems to be very popular with the whole family.

—Chicken goes over well with the children. Many mothers believe that their youngsters would really like to see chicken on their plates more often. (21)

Turkey in Your Freezer

Chicken isn't the only bird showing a gain in consumer popularity.

About three-fourths of the SRS-interviewed homemakers served turkey during the preceding year. This consumption represented an 11 percentage point increase since 1956.

Turkey's chief popularity stems from its image as a festive food and as a gold mine of leftovers.

While the frozen broiler-fryer still struggles for acceptance, the ice-cold turkey is prevailing over sales resistance. Biggest reason: availability. Nearly half of those who usually buy frozen turkey do so because fresh turkey is often difficult to find. (22)

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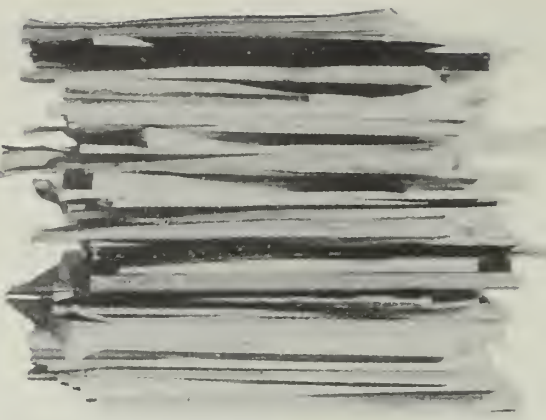
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The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D. C., 20250. State publications may be obtained only by writing to the issuing experiment station or university after the title.

POWER REQUIREMENTS AND COSTS FOR HIGH-CAPACITY COTTON GINS. C. A. Wilmot, Marketing Economics Division, and H. Watson, Agricultural Research Service. MRR-763.

The installation of larger and faster electrical cotton gins and related machinery generally result in a higher total connected electrical load. This, in turn, results in much higher electrical energy costs. Therefore, unless there are increases in the ginning rates sufficient to compensate for the additional power costs, the per bale cost of cotton will continue to climb.

COSTS OF PRODUCING UPLAND COTTON IN THE UNITED STATES, 1964. I. R. Starbird and F. K. Hines, Farm Production Economics Division. AER-99.

This 1965 survey measured the cost of producing upland cotton in the United States in 1964.

HOMEMAKERS' OPINIONS ABOUT AND PREFERENCES FOR BROILER-FRYERS AND TURKEYS. E. M. Knott, Statistical Reporting Service. MRR-760.

This report is one of a group of studies being conducted by the Special Surveys Branch, Statistical Reporting Service, to determine consumer reactions to agricultural products. It was designed to aid the poultry industries in efforts to improve their market position and to provide consumers with an opportunity to express their opinions about poultry products.

YOUNG PEOPLE'S USE AND APPRAISAL OF NATURAL AND COMPETING FIBERS IN WEARING APPAREL. Special Surveys Branch, Statistical Reporting Service. MRR-767.

This is an extension of the research conducted in 1955 on the opinions of teenagers regarding clothing fibers. The subject areas covered in this new survey have been revised and enlarged to encompass current needs for statistical data on natural and competing fibers.

EVALUATING ENABLING LAWS FOR SPECIAL DISTRICTS: A CASE STUDY IN OKLAHOMA. I. Hanson, Natural Resource Economics Division. ERS-281.

This outline for evaluating state enabling laws is applied to Oklahoma for the dual purposes of evaluating such laws and developing and testing the outline.

THE EUROPEAN AGRICULTURAL GUIDANCE AND GUARANTEE FUND. B. L. Berntson, Foreign Development and Trade Division. ERS-For. 144.

To carry out the agricultural provisions of the Rome Treaty of 1957, the European Economic Community established the European Agricultural Guidance and Guarantee Fund. This fund was intended to be the financial arm of the Community's common agricultural policy. (See June 1966 Farm Index.)

FOREIGN GOLD AND EXCHANGE RESERVES: RESERVES, TRADE AND ECONOMIC GROWTH IN 1965. G. R. Kruer, Foreign Development and Trade Division. FGER-1.

The expansion of world trade continued in 1965, but at a slower rate than in 1964.

Tables in this report trace international gold and foreign reserves of the Free World and 1965 exports and imports of industrial and other high income countries.

RURAL HOME FINANCING THROUGH THE VOLUNTARY HOME MORTGAGE CREDIT PROGRAM. L. A. Jones, Farm Production Economics Division. ERS-270.

Voluntary Home Mortgage Credit Program data show that credit insured by the Federal Housing Administration and credit guaranteed by the Veterans Administration was particularly short in the remoter areas of the Northern Plains and Great Lakes.

CROP ENTERPRISE COSTS FOR NORTHEASTERN COLORADO. H. G. Sitler, Farm Production Economics Division, in cooperation with the Colorado Cooperative Extension Service. Colo. State Univ. Unnumb. Pub.

What crop returns the greatest profit in northeastern Colorado? Can a farmer in that area increase his profits by changing his crop rotation? This report includes tables to help farmers answer these questions.

COSTS AND RETURNS FOR LARGE WISCONSIN DAIRY HERDS. N. D. Kimball, Farm Production Economics Division, in cooperation with the Wisconsin Agricultural Experiment Station. Wisc. Agri. Expt. Sta. Bul. 579.

Are milk prices too low in Wisconsin? Are costs pushing ahead of income? Can dairying be profitable on family-sized farms with modern facilities? This bulletin provides some answers to these and similar questions.

First Line of Defense

Pink bollworms and pine mice, weevils and witchweed, drought and decay.

They're all part of the enemy horde that America battles to win its abundance of wholesome food.

The huge job of protecting our food from 10,000 kinds of insects, 1,750 plant and animal diseases—plus spoilage and decay—is described in the 1966 Yearbook of Agriculture, *Protecting Our Food*, published November 6.

"The results of this battle to protect our food are evident," says Secretary of Agriculture Orville L. Freeman in the foreword. "In our own country, food quality is high, the abundance is great, and the cost relatively low. Overseas, we have supplied 98 percent of food aid received by the less developed nations."

The Yearbook is the 67th issued since USDA began the series in 1894. It's the first to cover "in depth" the measures taken—from seedbed to saucepan, and warehouse to wharf—to assure consumers that America's food will be safe and plentiful

In 416 pages, 105 photos and articles by 55 experts, the book's subjects range from livestock protection on the range, to food safeguards in home and hotel, to chemicals research in the lab.

It's a book for everyone who has an interest and stake in protecting America's food supplies.

The Yearbook is distributed mainly by members of Congress. Copies are for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Price is \$2.50; add 25 per cent for foreign mailing.

ECONOMICS OF SKIP-ROW COTTON PRODUCTION. W. W. Pawson, Farm Production Economics Division, and A. G. Nelson, Arizona Agricultural Experiment Station. Ariz. Agri. Expt. Sta. Rpt. 231.

The purpose of this report is to provide some guides to aid individual farmers in Arizona in reaching a decision on whether or not to grow skip-row cotton in 1966 and succeeding years.

THE DEMAND FOR FLOWERS-BY-WIRE. S. E. Brown, Marketing Economics Division. MRR-762.

For the entire United States, changes in annual Florists' Transworld Delivery Association sales could be explained in terms of changes in disposable personal income, employment, sales of household appliances and sales of confectionery manufactures. (See July 1966 Farm Index.)

CYPRUS' AGRICULTURAL ECONOMY IN BRIEF. H. H. Tegeler, Foreign Regional Analysis Division. ERS-For. 159.

Since 1962 receipts from sales of farm goods abroad have exceeded those earned from mineral products. The United Kingdom is still Cyprus' primary market for farm exports, in 1965 taking about 55 per cent of the value of all main agricultural export items. But there has been a recent substantial increase in trade with the Soviet bloc where Cyprus is finding markets for fruits, tobacco and potatoes.

Numbers in parentheses at end of stories refer to sources listed below:

1. W. R. Bailey, *Adapting Farming to the Great Plains* (S);
2. F. J. Rafeld and J. R. Tompkin (SM);
3. J. P. Madden and B. Davis, *Economics of Size on Irrigated Cotton Farms of the Texas High Plains*, Tex. Agri. Expt. Sta. B-1037 (P*);
4. N. J. Wall, 1967 *Agricultural Finance Outlook*, AFO-6 (P);
5. P. T. Allen, V. E. Eitel and E. T. Hamlin, "Financial Progress of Borrowers Who Recently Refinanced Their Farm-Mortgage Loans," *Agri. Fin. Rev.*, Aug. '66 (P);
6. J. G. Sutherland, *Effects of Cotton Prices and Allotment Variations on Farm Organization and Incomes*, Eastern Piedmont and Upper Coastal Plain, North Carolina, N.C. Agri. Expt. Sta. A. E. Int. Ser. 126 (P*);
7. G. K. Bowles, *The Hired Farm Working Force of 1965—A Statistical Report*, AER-98 (P);
9. J. W. McArthur and G. Warnick, *Economic Potentials for Baling Wood Shavings and Sacking Sawdust—Four Western Resource Conservation and Development Areas* (M);
10. O. E. Leonard, *Occupational Structure and Occupational Aspirations of Spanish Speaking Families* (S);
11. J. W. Thompson, *New*

- Developments in the Hide and Leather Industry (M);
12. J. C. Purcell, *Trend in Production, Marketings, Slaughter and Consumption of Livestock and Meats in the South* (M);
13. W. A. Faught and R. C. Soxman, *Costs of Storing and Handling Cotton at Public Storage Facilities* (M);
14. J. E. Ross and P. E. Le Ferney (SM);
15. H. H. Spurlock, *The Competitive Position of U.S. Farms Products in the Japanese Market*, FAER-32 (M);
16. L. P. Schertz (SM);
17. R. L. Tontz and I. E. Lemon, "U.S. Agricultural Export Shares by Regions and States, Fiscal Year 1965-66 With Comparisons," *For. Agri. Trade*, Nov. '66 (P);
18. S. W. Skinner, *Senegal's Agricultural Economy in Brief*, ERS-For. 166 (P);
19. M. H. Weidenheimer (SM);
20. M. E. Abel, 1966 *Amendments to Public Law 480*, ERS-For. 176 (P);
21. & 22. E. M. Knott, *Homemakers' Opinions and Preference for Broiler-Fryers and Turkeys* (M);
23. *Fruit Situation*, TFS-160 (P).

Speech (S); *published report* (P); *unpublished manuscript* (M); *special material* (SM); **State publications may be obtained only by writing to the experiment station or university cited.*

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Nutcracker Suite

Nuts continue to hold their own as Yuletide stocking-stuffers. Moreover, they've doubled their year-round popularity with Americans in the past half century.

Last year, Uncle Sam's family consumed about 1,400,000,000 pounds of nuts—not counting coconuts. This was a caloric 7½ pounds per person, compared with about 3½ pounds back in 1915.

Here are the "Top 5" on the U.S. nut parade last year (total civilian consumption in pounds, shelled):

Peanuts	1,075,000,000
Pecans	92,550,000
Cashews	71,677,000
Walnuts	59,314,000
Almonds	50,072,000

What filled the rest of the Nation's nut basket?

Filberts grown in Oregon and Washington—and imports mainly from Turkey—accounted for about 11½ million pounds.

Hawaiian Macadamias, an upcoming member in nut circles, added another 3 million pounds.

The balance was a bevy of imports—mostly Brazil nuts, pistachios, chestnuts and pignolias.

Pecans show the most spectacular rise in consumption—up from about 700,000 pounds in 1915 to about 93 million pounds. Leading pecan states are Georgia, Texas, Alabama, Louisiana, Oklahoma and Mississippi. They usually grow almost 90 per cent of the U.S. crop.

India supplies the world with cashews. But about two-thirds of India's exports are processed from nuts actually grown in Mozambique in Africa. (24)

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